

Mini - Project Idea Note

Name of Project: *Municipality#1 MSW Treatment Plant Project (Municipality#1)*

Date submitted: *7 May 2007*

A. Project descriptions

Type of the project	
Greenhouse gases targeted	<input checked="" type="checkbox"/> CO ₂ / <input checked="" type="checkbox"/> CH ₄ / <input type="checkbox"/> N ₂ O / <input type="checkbox"/> HFCs / <input type="checkbox"/> PFCs / <input type="checkbox"/> SF ₆
Field of activities	<input checked="" type="checkbox"/> a. Energy supply <input type="checkbox"/> b. Energy demand <input type="checkbox"/> c. Transport <input checked="" type="checkbox"/> d. Waste management <input type="checkbox"/> d. Manufacturing industries <input type="checkbox"/> e. Chemical industries <input type="checkbox"/> f. Mining/mineral industries <input type="checkbox"/> g. Fugitive emissions from fuels (solid, oil, gas) <input type="checkbox"/> h. Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride <input type="checkbox"/> i. Solvent use <input type="checkbox"/> j. Agriculture and livestock
Objective of the project	<p>The objectives of the project are:</p> <p>(1) To mitigate the release of CH₄ gas to the atmosphere from current open-dump site of Municipal Solid Waste (MSW); and</p> <p>(2) To reduce CO₂ emissions from grid electricity generation by using Refuse Derived Fuel (RDF) from MSW heat treatment & sorting process for power generation.</p>
Project descriptions and proposed activities	<p>The <i>Municipality#1</i> is the public organization which has the legal responsibilities to collect, handle, transport, and dispose for Municipal Solid Waste (MSW) which is generated within the municipal area. At present, MSW generated in the <i>Municipality#1</i> area, approximately <i>150 ton per day</i>, is disposed by open-dump method, which causes uncontrolled methane (CH₄) gas emission to the atmosphere. The general composition of the MSW of the <i>Municipality#1</i> area is as follows:</p> <ul style="list-style-type: none"> • Food waste and organic waste 60.75% • Paper 10.47% • Plastic 16.63% • Metal 2.72% • Glass 4.44% • Garden waste 0.81% • Rubber 0.73% • Fabric 1.41%

	<p>To avoid the GHG emission, and to promote waste recycling with the utilization of waste to energy, <i>Municipality#1</i> shall construct and operate the Municipal Solid Waste (MSW) Treatment Plant, <i>150-200 ton/day</i> capacity. Approximately <i>150 ton/day</i> of MSW shall be fed to the plant, which uses heat treatment process together with sorting & recycling process for producing high biomass content Refuse Derived Fuel (RDF with <i>more than 95% biomass content</i>).</p> <p>RDF produced from MSW treatment process shall be used to generate electricity using a thermal-steam power plant, which is expected to generate <i>1.5 MW-net</i> of power or <i>12,000 MWh-net per year</i> of energy to be exported to the grid under the Very Small Power Producer (VSPP) scheme.</p> <p>Due to the heat treatment process used, the selected treatment system is suitable to handle the MSW which contains high content of organic matters, and is also able to treat solid sludge waste from the municipal wastewater treatment plant and from hospital's waste.</p>
<p>Technology to be employed</p>	<p>The technologies to be employed in this project comprise of:</p> <ol style="list-style-type: none"> (1) MSW management technology, which consists in a heat treatment process, equipped with a sorting & recycling system to produce RDF (<i>> 95% biomass content</i>) and to recycle valuable materials; and (2) RDF thermal-steam cycle power plant, to generate electricity to be supplied to the national grid.
<p>Location of the project</p>	
<p>Brief description of the location of the project (Region and Country where the project will be implemented)</p>	<p>The project will be located at the existing <i>Municipality#1</i> Dump Site,</p>

<p>Expected environmental and social benefits</p>	
<p>Estimate of Greenhouse Gases abated (in metric tons of CO₂-equivalent)</p>	<p>The potential GHG-emission reduction is approximately <i>35,908 tCO₂-equivalent/years</i> or <i>718,157 tCO₂-equivalents for the project duration</i> (estimated at <i>20 years</i>).</p>
<p>Socio-economic aspects What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project?</p>	<p>The project activity will contribute to the sustainable development of Thailand in the following ways:</p> <ul style="list-style-type: none"> • Improve environmental conditions of existing MSW dump site. The problem of bad odors and insects caused by the MSW dump site will be reduced; • Improve quality of life (in term of health and hygiene) of neighbouring habitant nearby existing MSW dump site; • Recycle valuable materials, such as, metal, aluminum, plastic, that shall cause less waste generation for

	<p>handling and use less energy to re-produce those kind of materials;</p> <ul style="list-style-type: none"> • The avoidance of methane gas release of dump site shall decrease the impact on global warming; • Improve natural water resources through the avoidances of dumping MSW activities; • Improve Thailand's fuel supply security by reducing the dependence on the use of fossil fuel in power generation, which now is dominated by natural gas, lignite and imported fuel oil; • Support Thailand's policies for promoting environmental-friendly MSW management system, and using renewable energy for power production, and ; • Promote distributed generation plant, which shall cause less power loss on transmission and distribution system; • Improve stability of electricity supply in the local area; and • Increase local employment during construction, installation of the system, operation and maintenance of the MSW treatment plant and Power plant.
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PIN/PDD Developer-Intermediary	
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Expected schedule	
Earliest project start date	By 2007
Expected first year of CER delivery	2009
Project lifetime	20 years
Current status or phase of the project	<p> <input type="checkbox"/> Identification and pre-selection phase <input type="checkbox"/> Opportunity study finished <input type="checkbox"/> Pre-feasibility study finished <input checked="" type="checkbox"/> Feasibility study finalized <input checked="" type="checkbox"/> Negotiations phase <input type="checkbox"/> Contracting phase (mention what contracts) <input type="checkbox"/> etc. </p>